Claims 1 - 32 (cancelled)

Claim 33 (currently amended) A biochip reader for reading image data of a plurality of biological samples provided as spots or an array in a two dimensional manner on a surface of ~~said~~ a biochip; said reader comprising:

a light source for irradiating excitation light simultaneously on said plurality of samples on said biochip surface, and for causing said sample to emit fluorescent light different in wavelength from said excitation light;

a single optical detector for detecting a plurality of fluorescent light emitted by said plurality of samples as a spectroscopic information; and

means comprising a grating, or dichromatic mirror or Fourier spectrometer, for causing said fluorescent light emitted by said samples to be separated and developed as said spectroscopic information at different locations according to wavelength and to be detected by said single optical detector in a two dimensional manner at the different locations on said single optical detector.

Claim 34 (cancelled)

Claim 35. (currently amended) The biochip reader of claim 33, wherein a microscope is selected from the group consisting of a scanning confocal ~~microscope~~ optical system , a non-scanning confocal ~~microscope~~ optical system, and a 2-photon excitation ~~microscope~~ optical system ; said reader comprising:

a light source for irradiating excitation light simultaneously on said plurality of samples on said biochip surface, and for causing said sample to emit fluorescent light different in wavelength from said excitation light;

a single optical detector for detecting a plurality of fluorescent light emitted by said plurality of samples as a spectroscopic information; and

means comprising a grating, or dicromatic mirror or Fourier spectrometer, for causing said fluorescent light emitted by said samples to be separated and developed as said spectroscopic information at different locations on said optical detector .

Claim 36.(previously presented) The biochip reader of claim 33, wherein said spectroscopic information is separated from noise.

Claim 37 (Previously presented) The biochip reader of claim 33, wherein the area of spectroscopy is restricted by an aperture aligned with position of each sample or part thereof.

Claim 38. (currently amended) The biochip reader of claim 33, ~~wherein said biochip comprises a transparent substrate, and~~ wherein said light source comprises means for directing said excitation light to be irradiated onto one side of said biochip ~~whie~~ which is opposite to a side surface wherein said plurality of samples are arranged.